CLAIMS

1. An oral formulation which includes an intragranular phase comprising a bisphosphonic acid derivative and at least one carbohydrate alcohol, together with an aqueous binder.

2. A formulation according to claim 1, which does not contain lactose.

3. A formulation according to claim 1 or 2, wherein the bisphosphonic acid derivative is selected from the group consisting of alendronic acid, clodronic acid, ibandronic acid, etidronic acid, pamidronic acid, risedronic acid and tiludronic acid, or a pharmaceutically acceptable derivative, salt, solvate, hydrate, prodrug, enantiomer or racemic mixture thereof.

4. A formulation according to any of claims 1 to 3, wherein the bisphosphonic acid derivative is present in salt from.

5. A formulation according to claim 4, wherein the bisphosphonic acid derivative is present as a sodium, disodium or trisodium salt, optionally in hydrated form.

6. A formulation according to claim 5, wherein the bisphosphonic acid derivative is present as the monohydrate, dihydrate or trihydrate.

7. A formulation according to claim 5 or 6, wherein the bisphosphonic acid derivative is selected from the group consisting of alendronate sodium trihydrate, etidronate disodium and risedronate sodium monohydrate.

8. A formulation according to claim 7, wherein the bisphosphonic acid derivative is alendronate sodium trihydrate.

9. A formulation according to claim 7, wherein the bisphosphonic acid derivative is etidronate disodium.

10. A formulation according to claim 7, wherein the bisphosphonic acid derivative is risedronate sodium monohydrate.

11. A formulation according to any of claims 1 to 10, wherein the bisphosphonic acid derivative is present in the range of 0.5% to 40%.

12. A formulation according to any of claims 1 to 11, wherein the carbohydrate alcohol is selected from the group consisting of mannitol, maltitol, sorbitol, lactitol, erythritol and xylitol.

13. A formulation according to claim 12, wherein the carbohydrate alcohol is mannitol.

14. An oral formulation which includes an intragranular phase comprising a bisphosphonic acid derivative and a carbohydrate alcohol which is mannitol, together with an aqueous binder.

15. A formulation according to any of claims 1 to 14, which comprises 15 to 90% of the carbohydrate alcohol.

16. A formulation according to claim 15, which comprises 15 to 50% of the carbohydrate alcohol.

17. A formulation according to claim 16, which comprises 15 to 40% of the carbohydrate alcohol.

18. A formulation according to any of claims 1 to 17, wherein the intragranular phase further comprises one or more diluents and / or disintegrants.

19. A formulation according to claim 18, wherein the diluent is selected from the group consisting of microcrystalline cellulose, powdered cellulose, calcium phosphate-dibasic, calcium sulfate, dextrates, dextrins, alginates and dextrose excipients.

20. A formulation according to claim 19, wherein the diluent is microcrystalline cellulose.

21. A formulation according to claim 19 or 20, wherein the diluent is present in the range of 15 to 90%.

22. A formulation according to claim 18, wherein the disintegrant is selected from the group consisting of one or more of low substituted hydroxypropyl cellulose, carboxymethyl cellulose, calcium carboxymethylcellulose, sodium carboxymethyl cellulose, sodium starch glycollate, crospovidone, croscarmellose sodium, starch, crystalline cellulose, hydroxypropyl starch, and partially pregelatinized starch.

23. A formulation according to claim 22, wherein the disintegrant is sodium starch glycollate.

24. A formulation according to claim 22 or 23, wherein the disintegrant is present in the range of 5 to 20%.

25. A formulation according to any of claims 1 to 24, wherein the binder is selected from the group consisting of hydroxypropyl cellulose, hydroxypropyl methylcellulose, carboxymethyl cellulose sodium, polyvinylpyrrolidones, starches, gelatins and povidones.

26. A formulation according to claim 25, wherein the binder is starch.

27. A formulation according to claim 25 or 26, wherein the binder is present in the range of 1 to 15%.

28. A formulation according to any of claims 1 to 27, which further comprises one or more lubricants.

29. A formulation according to claim 28, wherein said lubricant is selected from the group consisting of talc, magnesium stearate, stearic acid, hydrogenated vegetable oils, glyceryl behenate, polyethylene glycols and derivatives thereof, sodium lauryl sulphate and sodium stearyl fumarate.

30. A formulation according to claim 29, wherein lubricant is magnesium stearate.

31. A formulation according to any of claims 28 to 30, wherein the lubricant is present in the range of 0.5 to 5%.

32. A formulation according to any of claims 1 to 31, which is a tablet.

33. A formulation according to any of claims 1 to 31, which is a capsule.

34. A process of preparing a formulation according to any of claims 1 to 33, which comprises intimately mixing a bisphosphonic acid derivative and at least one carbohydrate alcohol to form a dry blend, wet granulating the dry blend with an aqueous binder so as to obtain an intragranular phase, and further formulating the resulting intragranular phase so as to provide the formulation.

35. A process according to claim 34, which comprises forming a dry blend of the bisphosphonic acid derivative, at least one carbohydrate alcohol and one or more further intragranular excipients, wet granulating the dry blend with an aqueous binder so as to obtain an intragranular phase, and further formulating the resulting intragranular phase so as to provide the formulation.

36. A process according to claim 34 or 35, wherein said further formulating comprises compressing granules of the intragranular phase so as to provide a tablet.

37. A process according to claim 34 or 35, wherein said further formulating comprises encapsulating granules of the intragranular phase so as to provide a capsule.

38. A method of treating or preventing a disease state which is ameliorated or eliminated by the administration of a bone resorption inhibitor, which method comprises administering an effective or prophylactic amount of a pharmaceutical formulation according to any of claims 1 to 33.

39. A method according to claim 38, wherein said disease state is selected from the group consisting of systemic bone diseases including osteoporosis, osteoarthritis, Paget's disease, osteomalacia, multiple myeloma, and other forms of cancer, steroid therapy wherein the skeletal system is effected and age-related loss of bone mass, local disorders such as bone fractures and other such related disorders.

40. A process of reducing, or substantially eliminating, degradation products associated with a bisphosphonic acid derivative when present in a pharmaceutical formulation, which process comprises formulating a bisphosphonic acid derivative together with at least one carbohydrate alcohol, in the presence of an aqueous binder, as an intragranular phase of an oral pharmaceutical formulation, and further formulating the thus formed intragranular phase so as to provide a pharmaceutical formulation according to any of claims 1 to 33.

41. Use of an intragranular phase comprising a bisphosphonic acid derivative, together with at least one carbohydrate alcohol, prepared by wet granulation in the

presence of an aqueous binder, in reducing or substantially eliminating degradation products associated with a bisphosphonic acid derivative present in a pharmaceutical formulation.

42. Use according to claim 41, wherein the bisphosphonic acid derivative is selected from the group consisting of alendronic acid, clodronic acid, ibandronic acid, etidronic acid, pamidronic acid, risedronic acid and tiludronic acid, or a pharmaceutically acceptable derivative, salt, solvate, hydrate, prodrug, enantiomer or racemic mixture thereof.

43. Use according to claim 42, wherein the bisphosphonic acid derivative is present in salt from.

44. Use according to claim 43, wherein the bisphosphonic acid derivative is present as a sodium, disodium or trisodium salt, optionally in hydrated form.

45. Use according to claim 44, wherein the bisphosphonic acid derivative is present as the monohydrate, dihydrate or trihydrate.

46. Use according to claim 44 or 45, wherein the bisphosphonic acid derivative is selected from the group consisting of alendronate sodium trihydrate, etidronate disodium and risedronate sodium monohydrate.

47. Use according to claim 46, wherein the bisphosphonic acid derivative is alendronate sodium trihydrate.

48. Use according to claim 46, wherein the bisphosphonic acid derivative is etidronate disodium.

49. Use according to claim 46, wherein the bisphosphonic acid derivative is risedronate sodium monohydrate.

50. Use according to any of claims 41 to 49, wherein the carbohydrate alcohol is selected from the group consisting of mannitol, maltitol, sorbitol, lactitol, erythritol and xylitol.

51. Use according to claim 50, wherein the carbohydrate alcohol is mannitol.